



DEPARTMENT OF MATHEMATICS
COLLEGE OF THE SCIENCES
CENTRAL WASHINGTON UNIVERSITY
COURSE SYLLABUS FALL 2020

1. **MATH 101M: Math in Music**

<u>CRN</u>	<u>TIME/DAY</u>	<u>BLDG/ ROOM</u>	<u>INSTRUCTOR</u>
90418	9:00-9:50	Online	Dr. Janet Shiver

2. **Textbook and Materials:**

There is no textbook for this course.

A calculator will be needed for this course. A graphing calculator is recommended and will be used in the latter part of this course. I recommend a TI-83 or 84 for our needs.

3. **Office Hours and Phone Numbers:**

Office: Samuelson 208

Phone: 963-2109

Email: janet.shiver@cwu.edu

Office hours: 9:00– 9:50 Tuesday and Thursday (via Zoom – group) or by appointment.

4. **Course Description:** This course is designed for music majors wishing to complete their general mathematics requirement. The goal of this course is to learn some of the mathematics which can help us to better understand the math behind the music – its structure, arrangement, and perception. This course presents some fundamental topics underlying the mathematical structure of music and sound including modular arithmetic, ratios and proportions, patterns and sequences, models including sinusoidal functions, and statistics.

5. **Prerequisites:** To be successful you should be able to read music and identify and understand intervals and scales.

6. **Course Expectations:** Students will be expected to complete all assigned activities, homework and projects on time keep a well-organized notebook, and to seek outside assistance when difficulties are encountered. Assignments and homework will be accepted up to one day late but 10 points will be deducted from the grade received on the assignment for any late work. All Assignments should be written at a college level. Appropriate grammar, spelling and punctuation will be expected. Work should be either be written NEATLY **in pencil** or typed and all supporting work must be shown. Answers without work will generally receive no credit.

7. **Virtual Attendance Policy:** You should check your Canvas page on a regular basis. No less than three times a week to ensure you stay on top of the required work and that you do not miss any assignments. All missed assignments, quizzes and tests will result in a grade of zero. Extenuating circumstances such as illness or injury will be evaluated on a case-by- case basis but must be accompanied by a doctor's note. Please communicate quickly with your instructor if something unforeseen arises.

8. **Grading Policy:** The course grade will be determined as follows:
 Projects 15% Quizzes: 20% Tests: 30%
 Homework and Activities: 20%
 Final Exam = 15% *

*For students with a B- or higher at the end of the quarter, the final will be optional and the student will be allowed to keep the grade that they currently have. Students with less than a B- will have to take the final exam.

Homework: Homework will be assigned throughout the course. If you miss an assignment, you have 24 hours to make it up but there will be a 10 point reduction in your grade if it is late.

Quizzes: We will have weekly quizzes during the term to test your understanding and recall of some of the basic information we discuss. All quizzes are timed and due on Sunday.

Projects: 2 projects will be assigned during the quarter over different musical concepts such as building your own scale and writing a transformational piece of music, math modeling, etc.

Activities: This course is very hands-on. We will be completing numerous activities outside of class.

Tests: Three tests will be given during this term plus a final exam. Students with a B- or better at the end of the term will not be required to take the final exam and will be allowed to keep their current grade.

Attendance: There is no attendance policy for this online course; however, you are strongly encouraged to attend the **optional Zoom meetings** on Tuesday and Thursday from 9:00 – 10:00 each week.

Final Exam: The final exam will be due on November 19th at midnight. This will be a timed exam so you will need to plan for an uninterrupted 2-hour block. Once you begin the exam, you will have exactly 2-hours to complete it.

Grading Scale

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
93-100%	90-92%	87-89%	83-86%	80-82%	77-79%	72-76%	70-72%	67-69%	63-66%	60-62%	<60%

9. **Academic Honesty:** The integrity of students and their written and oral work is a critical component of the academic process. All written work submitted in this course will be individual work unless instructed otherwise. Students must properly document all outside sources used for projects, activities, and homework. The submission of another's work as one's own is plagiarism, and will be dealt with using the procedures outlined in the Undergraduate Catalog.
10. **Disabilities:** Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Center for Disability Services as soon as possible so we can

discuss how the approved adjustments will be implemented in class. Students without this form should contact the Center for Disability Services.

11. **Course Outline:** This schedule is a **rough** estimation of the time that will be spent on the following topics. This schedule **may** be modified by the instructor throughout the course. Test dates will be adjusted as needed.

Week of	Topic	Assessment
September 7th	Syllabus - Transformations and Modular Arithmetic	
September 14th	Transformations and Modular Arithmetic	Quiz 1
September 21st	Transformations and Modular Arithmetic	Quiz 2
September 28th	Transformations and Modular Arithmetic	Test 1
October 5th	Ratios, Proportions and the Scale	Quiz 3
October 12th	Ratios, Proportions and the Scale	Quiz 4
October 19th	Ratios, Proportions and the Scale	Test 2
October 26th	Patterns, Sequences and Music	Quiz 5
November 2nd	Patterns, Sequences and Music	Quiz 6
November 9th	Math modeling and Sound	Test 3
November 16 th	Final Exam	Final Due on Nov. 19th